

日時：12月4日（木）16:30～18:00

場所：理学総合棟 745号室（大学院講義室Ⅰ）

講師：Prof. Karlo Penc

Research Institute for Solid State Physics and Optics of the Hungarian Academy of Sciences

題目 : Quadrupolar Phases of the S=1 Heisenberg Model on the Triangular and Square Lattice

要旨：

Using mean-field theory, exact diagonalizations, and SU(3) flavor theory, we have mapped out the phase diagram of the S=1 bilinear-biquadratic Heisenberg model on the triangular and square lattice in a magnetic field, with emphasis on the quadrupolar phases and their excitations. In particular, we find several plateaux phases in these models: the antiferroquadrupolar phase in the triangular lattice is characterized by a remarkable 2/3 magnetization plateau, in which one site per triangle retains quadrupolar order while the other two are polarized along the field. In the square lattice a two sublattice 1/2 plateaux develops. At zero field the quantum fluctuations stabilize a 3-sublattice order. We also show examples of quadrupolar (nematic) ordering in classical spin system in pyrochlore lattice.

連絡先：石原純夫（795-6436）

☆ 16:15 よりコーヒー、紅茶、お菓子を用意します。カップを持ってお集まり下さい。

世話人 岩井伸一郎（795-6423），松井広志（795-6604），
本堂 肇（795-6443），泉田 渉（795-6475）